

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/079,640

1649 #6

DATE: 08/05/1999  
TIME: 15:13:01

INPUT SET: S32803.raw

This Raw Listing contains the General  
Information Section and up to the first 5 pages.

ENTERED

## SEQUENCE LISTING

1  
2  
3 (1) General Information:  
4  
5 (i) APPLICANT: Daniell, Henry  
6  
7 (ii) TITLE OF INVENTION: UNIVERSAL CHLOROPLAST INTEGRATION AND  
8 EXPRESSION VECTORS, TRANSFORMED PLANTS AND PRODUCTS  
9 THEREOF  
10  
11 (iii) NUMBER OF SEQUENCES: 18  
12  
13 (iv) CORRESPONDENCE ADDRESS:  
14 (A) ADDRESSEE: WEISER & ASSOCIATES  
15 (B) STREET: 230 South Fifteenth Street, Suite 500  
16 (C) CITY: Philadelphia  
17 (D) STATE: PA  
18 (E) COUNTRY: USA  
19 (F) ZIP: 19102  
20  
21 (v) COMPUTER READABLE FORM:  
22 (A) MEDIUM TYPE: Floppy disk  
23 (B) COMPUTER: IBM PC compatible  
24 (C) OPERATING SYSTEM: PC-DOS/MS-DOS  
25 (D) SOFTWARE: PatentIn Release #1.0, Version #1.30  
26  
27 (vi) CURRENT APPLICATION DATA:  
28 (A) APPLICATION NUMBER: US 09/079,640  
29 (B) FILING DATE: 15-MAY-1998  
30 (C) CLASSIFICATION:  
31  
32 (viii) ATTORNEY/AGENT INFORMATION:  
33 (A) NAME: Weiser, Gerard J.  
34 (B) REGISTRATION NUMBER: 19,763  
35 (C) REFERENCE/DOCKET NUMBER: 922.6588P  
36  
37 (ix) TELECOMMUNICATION INFORMATION:  
38 (A) TELEPHONE: 215-875-8383  
39 (B) TELEFAX: 215-875-8394  
40  
41  
42 (2) INFORMATION FOR SEQ ID NO:1:  
43  
44 (i) SEQUENCE CHARACTERISTICS:  
45 (A) LENGTH: 2050 base pairs  
46 (B) TYPE: nucleic acid

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PATENT APPLICATION US/09/079,640DATE: 08/05/1999  
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47 (C) STRANDEDNESS: single  
48 (D) TOPOLOGY: linear  
49  
50 (ii) MOLECULE TYPE: DNA (genomic)  
51  
52 (vi) ORIGINAL SOURCE:  
53 (A) ORGANISM: Soybean  
54  
55  
56  
57 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:  
58  
59 GTACACACCG CCCGTCACAC TATGGGAGCT GGCCATGCCG AAGTCGTTAC CTTAACCGCA 60  
60  
61 AGAGGGGGAT GCCGAAGGCA GGGCTAGTGA CTGGAGTGAA GTCGTAACAA GGTAGCCGTA 120  
62  
63 CTGGAAGGTG CGGCTGGATC ACCTCCTTTT CAGGGAGAGC TAATGCTTGT TGGGTAGTTT 180  
64  
65 AGTTTGACAC TGCTTCACAC CCAAAAAGAA GCGAGTTATG TCTGAGTCAA ATTTGGAGAT 240  
66  
67 GGAAGTCTTC TTTCGTTTCT CGATGGTGAA GTAAGACTAA ACTCATGAGC TTATTATCCT 300  
68  
69 AGGTCGGAAC AAGTTGATAG GAGCTACTTT TTTCACCCCC ATATGGGGGT GAAAAAAGGA 360  
70  
71 AAGAGAGGGA TGGGGTTTCT CTTGCTTTTG GCATAGCGGG CCCC GGCGGG AGGCCCCGAC 420  
72  
73 GACGGGCTAT TAGCTCAGTG GTAGAGCGCG CCCCTGATAA TTGCGTCGTT GTGCCTGGAC 480  
74  
75 TGTGAGGGCT CTCAGCCACA TGGATAGTTT AATGTGCTCA TCGGCGCCTG ACCCTGAGAT 540  
76  
77 GTGGATCATC CAAGGCACAT TAGCATGGCG TACTTCTCCT GTTTGAACCG GGGTTTGAAA 600  
78  
79 CCAAACTTAT CCTCAGGAGG ATAGATGGGG CGATTCAGGT GAGATCCAAT GTAGATCCAA 660  
80  
81 CTTTCTCTTC ACTCGTGGGA TCCGGGCGAT CCGGGGGGGA CCACCACGGC TCCTCTCTTC 720  
82  
83 TCGAGAATTC ATACATCCCT TATCAGTATA TGGACAGTTA TCTCTCGAGC ACAGGTTTAG 780  
84  
85 GTTTGGCCTC AATGGAAAAA AACGGAGCAC CTAACAACGT ATCTTCACAG ACCAAGAACT 840  
86  
87 ACGAGATCGC CCCTTTCATT CTGGGGTGAC GGTGGGATCG TACCATTCTGA GCCTGGGAGC 900  
88  
89 AGGTTTGAAA AAGGATCTTA GAGTGTCTAG GGTGTGCTA GGAGGGTCTC ATAATGCCTT 960  
90  
91 CCTTTTCTT CTCATCGGAG TTATTTCCCA AAGACTTGCC ATGGTAAAGA AGAAGGGGGA 1020  
92  
93 ACAAGCACAC TTGGAGAGCG CAGTACAACG GATAGTTGTA TGCTGCGTTC GGAAGGATG 1080  
94  
95 AATCGCTCCC GAAAAGGAAT CTATTGATTC TCTCCCAATT GGTGGACTG TAGGTGCGAT 1140  
96  
97 GATTACTTTC ACGGGCGAGG TCTCTGGTTC AAGTCCAAGA TGGCCCAGCT GCGTCAAGGA 1200  
98  
99 AAAGAATAGA AAAGTACTT GACTCCTTCA TGCATGCTCC ACTCGGCTCG GGGGGATATA 1260

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PATENT APPLICATION US/09/079,640DATE: 08/05/1999  
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100  
101 GCTCAGTTGG TAGAGCTCCG CTCTTGCAAT TGGGTCGTTG CGATTACGGG TTGGATGTCT 1320  
102  
103 AATTGTCTAG GCGGTAATGA TAGTATCTTG TACCTGAACC GGTGGCTCAC TTTTCTAAG 1380  
104  
105 TAATGGGAAA GAGGACCGAA ACATGCCACT GAAAGACTCT ACTGAGACAA AGACGGGCTG 1440  
106  
107 TCAAGAACGT AGAGGAGGTA GGATGGGCAG TTGGTCAGAT CTAGTATGGA TCGTACATGG 1500  
108  
109 ACGGTAGTTG GAGTCGGTGG CTCTCCTAGG GTTTCCTCAT TTGGGATCCT GGGGAAGAGG 1560  
110  
111 ATCAAGCTGG CCCTTGCGAA CAGCTTGATG CACTATCTCC CTTCAACCCT TTGAGCGAAA 1620  
112  
113 TGTGGCAAAA GGAAAAAGAA TCCATGGACC GACCCCATCG TCTCCACCCC GTAGGAACTA 1680  
114  
115 CGAGATCACC CCAAGGAACG CCTTCGGCAT CCAGGGGTCG CGGACCGACC ATAGAACCCT 1740  
116  
117 GTTCAAAAAG CGGAACGCAT TAGCTATCCG CTCTCAGGTT GGACAGTAAG GGTCCGAGAA 1800  
118  
119 GGGCAATCAC TCATTCTTAG TTAGAATGGG ATTCCAATC AGCACCTTTT GAGATTTTGA 1860  
120  
121 GAAGAGTTGC TCTTTGGAGA GCACAGTACG ATGAAAGTTG TGAGCTGTGT TCGGGGGGGA 1920  
122  
123 GTTATTGTCT ATCGTTGGCC TCTATGGTAG AATCAGTCGG GGCCTGAGAG GCGGTGGTTT 1980  
124  
125 ACCCTGTGGC GGATGTCAGC GGTTGAGTC CGCTTATCTC CAACTCGTGA ACTTAGTCGA 2040  
126  
127 TACAAAGCTA 2050  
128

## (2) INFORMATION FOR SEQ ID NO:2:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2103 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: Tobacco

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

145  
146 GTACACACCG CCCGTCACAC TATGGGAGCT GGCCATGCCC GAAGTCGTTA CCTTAACCGC 60  
147  
148 AAGGAGGGGG ATGCCGAAGG CAGGGCTAGT GACTGGAGTG AAGTCGTAAC AAGGTAGCCG 120  
149  
150 TACTGGAAGG TGCGGCTGGA TCACCTCCTT TTCAGGGAGA GCTAATGCTT GTTGGGTATT 180  
151  
152 TTGGTTTGAC ACTGCTTCAC ACCCCCAAAA AAAAGAAGGG AGCTACGTCT GAGTTAAACT 240

**INPUT SET: S32803.raw**

153							
154	TGGAGATGGA	AGTCTTCTTTT	CCTTTCTCGA	CGGTGAAGTA	AGACCAGCTC	ATGAGCTTAT	300
155							
156	TATCCTAGGT	CGGAACAAGT	TGATAGGACC	CCCTTTTTTTA	CGTCCCCATG	TTCCCCCGT	360
157							
158	GTGGCGACAT	GGGGCGAAAA	AAGGAAAGAG	AGGGATGGGG	TTTCTCTCGC	TTTTGGCATA	420
159							
160	GCGGGCCCCC	AGTGGGAGGC	TCGCACGACG	GGCTATTAGC	TCAGTGGTAG	AGCGCGCCCC	480
161							
162	TGATAATTGC	GTCGTTGTGC	CTGGGCTGTG	AGGGCCTCTC	AGCCACATGG	ATAGTTCAAT	540
163							
164	GTGCTCATCG	GCGCCTGACC	CTGAGATGTG	GATCATCCAA	GGCACATTAG	CATGGCGTAC	600
165							
166	TCCTCCTGTT	CGAACCGGGG	TTTGAAACCA	AACTCCTCCT	CAGGAGGATA	GATGGGGCGA	660
167							
168	TTCGGGTGAG	ATCCAATGTA	GATCCAACCT	TCGATTCACT	CGTGGGATCC	GGGCGGTCCG	720
169							
170	GGGGGACCAC	CACGGCTCCT	CTCTTCTCGA	GAATCCATAC	ATCCCTTATC	AGTGTATGGA	780
171							
172	CAGCTATCTC	TCGAGCACAG	GTTTAGCAAT	GGGAAAATAA	AATGGAGCAC	CTAACAACGC	840
173							
174	ATCTTCACAG	ACCAAGAACT	ACGAGATCGC	CCCTTTCATT	CTGGGGTGAC	GGAGGGATCG	900
175							
176	TACCATTCGA	GCCGTTTTTTT	TCTTGACTCG	AAATGGGAGC	AGGTTTGAAA	AAGGATCTTA	960
177							
178	GAGTGTCTAG	GGTTGGGCCA	GGAGGGTCTC	TTAACGCCTT	CTTTTTTCTT	CTCATCGGAG	1020
179							
180	TTATTTTACA	AAGACTTGCC	AGGGTAAGGA	AGAAGGGGGG	AACAAGCACA	CTTGGAGAGC	1080
181							
182	GCAGTACAAC	GGAGAGTTGT	ATGCTGCGTT	CGGGAAGGAT	GAATCGCTCC	CGAAAAGGAA	1140
183							
184	TCTATTGATT	CTCTCCCAAT	TGGTTGGACC	GTAGGTGCGA	TGATTTACTT	CACGGGCGAG	1200
185							
186	GTCTCTGGTT	CAAGTCCAGG	ATGGCCCAGC	TGCGCCAGGG	AAAAGAATAG	AAGAAGCATC	1260
187							
188	TGACTACTTC	ATGCATGCTC	CAC TTGGCTC	GGGGGGATAT	AGCTCAGTTG	GTAGAGCTCC	1320
189							
190	GCTCTTGCAA	TTGGGTGCGT	GCGATTACGG	GTTGGATGTC	TAATTGTCCA	GGCGGTAATG	1380
191							
192	ATAGTATCTT	GTACCTGAAC	CGGTGGCTCA	CTTTTTCTAA	GTAATGGGGA	AGAGGACCGA	1440
193							
194	AACGTGCCAC	TGAAAGACTC	TACTGAGACA	AAGATGGGCT	GTCAAGAACG	TAGAGGAGGT	1500
195							
196	AGGATGGGCA	GTTGGTCAGA	TCTAGTATGG	ATCGTACATG	GACGGTAGTT	GGAGTCGGCG	1560
197							
198	GCTCTCCCAG	GGTTCCCTCA	TCTGAGATCT	CTGGGGAAGA	GGATCAAGTT	GGCCCTTGCG	1620
199							
200	AACAGCTTGA	TGCACTATCT	CCCTTCAACC	CTTTGAGCGA	AATGCGGCAA	AAGAAAAGGA	1680
201							
202	AGGAAAATCC	ATGGACCGAC	CCCATCATCT	CCACCCCGTA	GGAAC TACGA	GATCACCCCA	1740
203							
204	AGGAACGCCT	TCGGCATCCA	GGGGTCACGG	ACCGACCATA	GAACCCTGTT	CAATAAGTGG	1800
205							

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206	AACGCATTAG CTGTCCGCTC TCAGGTTGGG CAGTCAGGGT CGGAGAAGGG CAATGACTCA	1860
207		
208	TTCTTAGTTA GAATGGGATT CCAACTCAGC ACCTTTTGAG TGAGATTTTG AGAAGAGTTG	1920
209		
210	CTCTTTGGAG AGCACAGTAC GATGAAAGTT GTAAGCTGTG TTCGGGGGGG AGTTATTGTC	1980
211		
212	TATCGTTGGC CTCTATGGTA GAATCAGTCG GGGGACCTGA GAGGCGGTGG TTTACCCTGC	2040
213		
214	GGCGGATGTC AGCGGTTCGA GTCCGCTTAT CTCCAACCTCG TGAACCTAGC CGATACAAAG	2100
215		
216	CTT	2103
217		
218	(2) INFORMATION FOR SEQ ID NO:3:	
219		
220	(i) SEQUENCE CHARACTERISTICS:	
221	(A) LENGTH: 2103 base pairs	
222	(B) TYPE: nucleic acid	
223	(C) STRANDEDNESS: single	
224	(D) TOPOLOGY: linear	
225		
226	(ii) MOLECULE TYPE: DNA (genomic)	
227		
228	(vi) ORIGINAL SOURCE:	
229	(A) ORGANISM: Maize	
230		
231		
232		
233	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:	
234		
235	GTACACACCG CCCGTCACAC TATAGGAGCT GGCCAGGTTT GAAGTCATTA CCCTTAACCG	60
236		
237	TAAGGAGGGG GATGCCTAAG GCTAGGCTTG CGACTGGAGT GAAGTCGTAA CAAGGTAGCC	120
238		
239	GTACTGGAAG GTGCGGCTGG ATCACCTCCT TTTACGGGAG AGCTAAGTCT TATGCTTATT	180
240		
241	GGGTATTTTG GTTTGACACT GCTTCACGCC CAAAAAGAAG GCAGCTACGT CTGAGCTAAA	240
242		
243	CTTGATATG GAAGTCTTCT TTCGTTTAGG GTGAAGTAAG ACCAAGCTCA TGAGCTTATT	300
244		
245	ATCCTAGGTC GGAACAAATT AGTTGATAGT GATAGGATCC CCTTTTGGAC GTCCCCATGT	360
246		
247	CCCCCGTGT GGCGGCATGG GGATGTCAAA AGGAAAGGGA TGGAGTTTTT CTCGCTTTTG	420
248		
249	GCGTAGCGGC CTCCCTTTGG GAGGCCGCGC GACGGGCTAT TAGCTCAGTG GTAGAGCGCG	480
250		
251	CCCCTGATAA TTCGTCGTTG TGCCTCGGCT GTGAGGGCTC TCAGCCACAT GGATAGTTCA	540
252		
253	ATGTGCTCAT CAGCGCCTGA CCCGAAGATG TGGATCATCC AAGGCACATT AGCATGGCGT	600
254		
255	ACTCCTCCTG TTTGAATCGG AGTTTGAAAC CAAACAACT TCTCCTCAGG AGGATAGATG	660
256		
257	GGGCGATTCA GGTGAGATCC CATGTAGATC GAACTTTCTA TTCACTCGTG GGATCCGGGC	720
258		

PAGE: 1

**SEQUENCE VERIFICATION REPORT**  
**PATENT APPLICATION *US/09/079,640***

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Original Text